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EXAMINER

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Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-38 have been considered but are moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3-5, 8, 9, 14, 16-18 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hershey et al. (Hershey), U.S. Patent No. 5,878,034, previously used, in view of Hassan et al. (Hassan), U.S. Patent No. 5,914,942, recently discovered.

Regarding claim 1, Hershey discloses in a satellite communication system comprising at least a first satellite arranged to receive first data from a first source and second data from a second source displaced from the first source, to receive control data and to transmit the first data and the second data, apparatus for processing the first and second data comprising in combination:

an earth processing center (i.e., ground station) arranged to process the first data and second data (col. 4, lines 4-16) ;

a wide band network (i.e., reads on wideband coded ranging signals) arranged to transmit the first and second data to the processing center (col. 10, lines 41-44);

a first receptor terminal arranged to receive the first data from the satellite and to place the first data on the network for transmission to the processing center (i.e., reads on ground station transmitting using wideband coded ranging signals) (col. 10, lines 10, lines 41-65); and

a second receptor terminal arranged to receive at least the second data from the satellite and to place at least the second data on the network for transmission to the processing center (i.e., reads on ground station transmitting using wideband coded ranging signals) (col. 10, lines 41-65).

Hershey fails to explicitly disclose a wide band terrestrial network.

In a similar field of endeavor, Hassan discloses a wide band terrestrial network (col. 6, lines 23-42).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Hershey to include an land earth station or ground station that is operable to communicate with a user terminal in either wideband mode or narrow band for the purpose of efficiently managing the assignment of bandwidth (see Hassan, col. 3, lines 46-67).

Regarding claim 3, Hershey and Hassan discloses an apparatus as claimed in claim 1, wherein the first data is received by the satellite at a first time and the second data is received by the satellite at a second time later than the first time (i.e., reads on a plurality of ground stations transmitting unique words at different times) (col. 2, lines 45-57 and col. 3, lines 5-22).

Regarding claim 4, Hershey and Hassan discloses an apparatus as claimed in claim 3, wherein the satellite transmits the first data at a third time occurring after the first time and wherein the satellite transmits the second data at a fourth time occurring after the second time (i.e., reads on spacecraft satellite retransmitting ranging signal after a time received by a plurality of ground stations) (col. 2, lines 45-57 and col. 3, lines 5-22).

Regarding claim 5, Hershey and Hassan discloses an apparatus as claimed in claim 1, wherein the satellite transmits the first data to the first receptor terminal in the event the first receptor terminal is prepared to receive the first data and wherein the satellite transmits the second data to the second receptor terminal in the event the second receptor terminal is prepared to receive the second data (col. 2, lines 49-54 and line 66 to col. 3, line 14).

Regarding claim 8, Hershey and Hassan discloses an apparatus, as claimed in claim 1, wherein the satellite inherently comprises a sensor arranged to receive the first data and second data (col. 2, lines 41-51).

Regarding claim 9, Hershey and Hassan discloses an apparatus as claimed in claim 1, wherein the system comprises a satellite{operation center} (i.e., reads on Master ground station) connected to the first receptor terminal and second receptor terminal by the network, the satellite [operation center] being arranged to transmit the control data to the satellite (col. 3, lines 22-38).

Regarding claim 14, Hershey and Hassan discloses in a satellite communication system comprising at least a first satellite arranged to receive first data from a first

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source and second data from a second source displaced from the first source, to receive control data and to transmit the first data and the second data to the earth, a method of processing the first and second data comprising in combination:

receiving the first data at the earth from the satellite (col. 2,lines 51-57),
transmitting the first data adjacent the earth for processing (col. 2,lines 51-57);
receiving at least the second data at the earth from the satellite (col. 3,lines 22-38);

transmitting at least the second data adjacent the earth for processing (col. 3,lines 22-38); and

processing the first data and second data adjacent the earth (col. 2,line 66 to col. 3,line 22).

Regarding claim 16, Hershey and Hassan discloses a method as claimed in claim 14, and further comprising receiving the first data at the satellite at a first time and receiving the second data at the satellite at a second time later than the first time (col. 2,lines 45-55).

Regarding claim 17, Hershey and Hassan discloses a method as claimed in claim 16, and further comprising transmitting the first data from the satellite at a third time occurring after the first time and transmitting the second data from the satellite at a fourth time occurring after the second time (col. 2,line 66 to col. 3, line14).

Regarding claim 18, Hershey and Hassan discloses an method as claimed in claim 14, wherein the satellite transmits the first data to a first location on earth (i.e., the first ground station) in the event the first location is prepared to receive the first data

and wherein the satellite transmits the second data from the satellite to a second location on earth in the event the second location on earth is prepared to receive the second data (col. 2,lines 49-54 and line 66 to col. 3,line 14).

Regarding claim 23, Hershey and Hassan discloses a method as claimed in claim 14, wherein the transmitting comprises wide band transmitting (col. 10,lines 41-44).

4. Claims 2 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hershey and Hassan, in view of Nakagawa, U.S. Patent No. 5,455,961

Regarding claims 2 and 15, Nakagawa discloses an apparatus and method as claimed in claims 1 and 14, respectively, wherein the satellite comprises a memory for storing the first and second data (col. 5,lines 16-25).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Hershey to include a satellite able to store a set of data from the ground transmitted by ground stations to the orbiting satellite for the purpose of allowing the satellite to manage the destinations of data while in sight of the ground station.

5. Claims 13 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hershey and Hassan, in view of Olds et al. (Olds), U.S. Patent No. 6,691,274.

Regarding claims 13 and 24, Olds discloses a apparatus and method as claimed in claims 1 and 14,respectively, wherein the transmitting comprises optical transmitting (col. 6,line 65 to col. 7,line 1).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Hershey to include wireless connections such as optical for the

purpose of transporting a variety of services with different quality of service requirements as suggest in Olds.

6. Claims 25 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa, in view of Butler et al. (Butler), U.S. Patent No. 6,643,788.

Regarding claims 25 and 31, Nakagawa discloses a satellite data collection and distribution system and method comprising:

at least one earth-orbiting satellite having at least one data collection instrument, a memory for storing collected data and a transmitter for broadcasting the collected data toward the earth on a substantially continuous basis (col. 2, lines 1-12 and col. 5, lines 15-25);

a plurality of unmanned, receptor terminals (i.e., ground stations) positioned at selected locations on or near the earth's surface to receive data signals from the satellite (col. 2, lines 62-67 and col. 3, lines 1-25);

a processing and control center for processing data collected by the satellite and for transmitting control signals to the satellite (col. 7, lines 21-34).

Nakagawa fails to explicitly disclose a receive-only receptor terminal and a wideband network connecting the receptor terminals and the processing and control center.

In a similar field of endeavor, Butler discloses a wideband network connecting the receptor terminals (i.e., receive only) and the processing and control center, a receptor is in close proximity to point of access to the wideband network; wherein the receptor terminals are positioned to provide near global coverage of the earth and data

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signals received at the receptor terminals are forwarded to the processing and control center over the wideband network with minimal delay and on substantially continuous bseis. (col. 1, lines 60-65 and col. 2, lines 9-13 and col. 3, lines 1-27).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Nakagawa to include a receive only ground station which transfers the received data from a satellite into a memory buffer via wideband network for the purpose of processing a bit stream in real time wherein the source is remotely located (i.e., satellite).

7. Claims 6,7 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hershey and Hassan, in view of Bhat, U.S. Patent No. 6,438,374.

Regarding claims 6,7, and 19, Hershey discloses an apparatus and method as claimed in claims 1 and 14, but fails to explicitly disclose wherein the satellite transmits the first data and second data to the second receptor in the event the first receptor terminal is unprepared to receive the first data and the second receptor terminal is prepared to receive the first data and second data (or placed on the network in case first receptor does not receive first data).

In a similar field of endeavor, Bhat discloses wherein the satellite transmits the first data and second data to the second receptor in the event the first receptor terminal is unprepared (i.e., reads on non-operational) to receive the first data and the second receptor terminal is prepared to receive the first data and second data (col. 6, line 62 to col. 7, line 17).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Hershey to include intelligent switching such that if one ground station is not in operation, the transmission is rerouted to an operational ground station or destination so that communication will not be interrupted.

8. Claims 10,11,20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hershey and Hassan, in view of Vanden Heuvel et al. (Vanden Heuvel), U.S. Patent No. 5,924,014.

Regarding claims 10,11,20 and 21, Hershey discloses the apparatus as claimed in claims 9 and 14 but fails to explicitly disclose wherein the operation center is arranged to signal the satellite to transmit the first data to the first receptor terminal in the event that the processing center detects a deficiency in the first data.

In a similar field of endeavor, Vanden Heuvel discloses wherein the operation center is arranged to signal the satellite to transmit the first data to the first receptor terminal in the event that the processing center detects a deficiency (i.e., condition of uplink communication channel or downlink communication channel) in the first data (col. 5, line 30 to col. 6, line 21).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Hershey to include evaluation of the uplink communication channel to see if connection needs to be rerouted such that communication will not be interrupted.

9. Claims 26-30 and 32-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa.

Regarding claims 26-30 and 32-38, Nakagawa discloses a satellite data collection and distribution system as defined in claims 25 and 31, but fails to explicitly disclose wherein means for storing a copy of a global coverage map maintained by the processing and control center, the coverage map indicating the positions of the receptor terminal and means for retransmitting data that could not be successfully transmitted because of a gap in global coverage, as determined by the map.

However, the examiner takes Official Notice that (1) *a copy of a global coverage map is maintained by the processing and control center and retransmitting stored data that could not be successfully transmitted because of a gap in global coverage; (2) retransmitted data is retrieved from memory, multiplexing received data with collected data for broadcast from the satellite on a substantial continuous basis and (3) detecting errors and attempting to correct errors by providing overlapping coverage* is notoriously well-known in the art of *satellite and terrestrial based wireless communication*.

At the time of the invention it would have been obvious to one of ordinary skill in the art that a copy of a global coverage map would be maintained by the processing and control center and that data with errors would be retransmitted if a gap in global coverage exists, for the purpose of allowing the satellite to provide continuous coverage.

10. Claims 12 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hershey and Hassan.

Regarding claims 12 and 22, Hershey discloses the limitations of claims 1 and 14, respectively. Hershey fails to explicitly disclose a second satellite arranged to receive third data from a third source and fourth data from a fourth source, to receive control data and to transmit the third data and the fourth data.

However, the examiner takes Official Notice that more than one satellite in an orbit communicating with a plurality of ground stations is notoriously well-known in the art of *satellite and terrestrial based wireless communication*.

At the time of the invention it would have been obvious to one of ordinary skill in the art that a plurality of satellites communicate with a plurality of ground stations, thus receiving third and fourth data from a third and fourth source for the purpose of allowing data to be transferred to a wideband computer network.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joy K. Contee whose telephone number is 571.272.7906. The examiner can normally be reached on Monday through Friday, 5:30 a.m. to 2:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on 571.272.7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


JOY K. CONTEE
PATENT EXAMINER